Serial No.: 10/734,328 Examiner: Steven Lim

Reply to Office Action mailed August 22, 2007

Page 4 of 13

## RECEIVED CENTRAL FAX CENTER

JAN 2 2 2008

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application. No new matter has been added.

1. (Currently amended) An access method for the variable power adjustment in <u>a the</u>-code division multiple access mobile communication system, the said method being is-based on a the-base station and the-user equipment, comprising:

wherein, the obtaining acquisition information is obtained by the base station through receiving on via an the up link a the prefix of a the physical random access channel, and an the access prefix of the physical common packet channel and a the conflict detection prefix of a physical common packet channel and evaluating the quality, respectively, the acquisition information being represented by a matrix containing at least two numbers;

performing the precise control of the transmission power of <u>a</u> the subsequent message section of the physical random access channel, <u>and the</u> conflict detection prefix of the physical common packet channel, and the <u>a</u> power control prefix, <u>and a the</u> message section of the physical common packet channel being are obtained based on the quality evaluation values obtained from evaluating the quality value;

transmitting a the-control indication of the said precise control is transmitted via the down link an acquisition indication channel, an access prefix acquisition indication channel, and a conflict detection/channel assignment indication channel of a down link; and

after receiving the said power the control indication being received by the user equipment, transmitting the subsequent message section of the physical random access channel, and the conflict detection prefix of the physical common packet channel, and the power control prefix, and the message section of the physical common packet channel are transmitted by using a value among a plurality of power bias values.

 (Currently amended) An access method for the variable power adjustment in the code division multiple access mobile communication system as Claim 1, wherein, a Serial No.: 10/734,326 Examiner: Steven Lim

Reply to Office Action mailed August 22, 2007

Page 5 of 13

the format of the acquisition indication channel and the access prefix acquisition indication channel that have the control indication of the having the said precise control indication is:

$$a_{2k} = \sum_{s=0}^{15} AI_{1,s}P_s(k)$$

$$a_{2k+1} = \sum_{s=0}^{15} AI_{2,s}P_s(k), k = 0,1...15;$$

wherein, Ps(k) is a prefix characteristic code, the-values of AI<sub>1</sub> and AI<sub>2</sub> can be taken as 0, 1, and -1, nine control indications can be produced by combining AI<sub>1</sub> and AI<sub>2</sub>.

3. (Currently amended) An access method for the variable power adjustment in the code division multiple access mobile communication system as Claim 1, wherein, a the format of the said conflict detection/channel assignment indication channel is:

$$a_{2l} = \sum_{i=0}^{15} CDI_{i,1}P_{Si}(l) + \sum_{k=0}^{15} CAI_{k,1}P_{Sk}(l)$$

$$a_{2l+1} = \sum_{l=0}^{15} CDI_{i,2}P_{Sl}(l) + \sum_{k=0}^{15} CAI_{k,2}P_{Sk}(l), 1 = 0,1...15;$$

wherein,

each of CDI<sub>1</sub>, CAI<sub>2</sub> [[,]] can be taken as 0, 1, and -1;

the definitions of  $T_1$ ,  $T_0$ , and  $T_{-1}$  being are as follows:

$$T_i = \{(1, 1), (1, 0), (0, 1)\};$$

$$T_0=\{(0,0),(1,-1),(-1,1)\};$$

$$T_{-1} = \{(-1, -1), (-1, 0), (0, -1)\}.$$

4. (Currently amended) An access method for the variable power adjustment in the code division multiple access mobile communication system as of Claim 1, wherein, in the power adjustment of the message section messages of the said physical random access channel,

Serial No.: 10/734,326 Examiner: Steven Llm

Reply to Office Action mailed August 22, 2007

Page 6 of 13

when the any of acquisition indications of the received down link acquisition indication channel are (0, 0), (1, -1), (-1, 1) of acquisition indication channel is received via the down link, then the transmitting the prefix of the physical random access channel prefixes will be transmitted by continuously using continuously a the power bias  $\Delta P0$ ;

when any of acquisition indications of (0, -1), (-1, 0), (-1, -1) is are received, then exiting the access will be exited and reporting reported to an the upper layer;

when an acquisition indication of (1, 1) is received, then-transmitting the message section messages will be transmitted by using a the power bias  $\Delta$  Pp-m;

when an acquisition indication of (1, 0) is received, then-transmitting the message section messages will be transmitted by using a the-power bias  $\Delta Pp-m+\Delta P1$ ;

when an acquisition indication of (0, 1) is received, then transmitting the message section messages will be transmitted by using a the power bias  $(\Delta \text{ Pp-m+2* }\Delta \text{ P1})$ .

5. (Currently amended) An access method of for the variable power adjustment in the code division multiple access mobile communication system as Claim 1, wherein, after an acquisition indication of the down link access prefix acquisition indication channel is received by the said physical common packet channel via the down link, when any of the access prefix acquisition indications of received by the user equipment on the down link are (0, 0), (1, -1), (-1, 1) is received by the user equipment, then transmitting the access prefix prefixes will be transmitted by continuously using continuously the a power bias Δ P0;

when any of acquisition indications of (0, -1), (-1, 0), (-1, -1) is are-received, then exiting the access and reporting will be exited and reported to an the upper layer;

when an acquisition indication of (1, 1) is received, then transmitting the message section messages will be transmitted by using the same power bias;

when an acquisition indication of (1, 0) is received, then transmitting the message section messages will be transmitted by using a the power bias  $\Delta P1$ ;

when an acquisition indication of (0, 1) is received, then transmitting the message section messages will be transmitted by using a the power bias  $(2* \Delta P1)$ .

Serial No.: 10/734,326 Examiner: Steven Lim

Reply to Office Action mailed August 22, 2007

Page 7 of 13

6. (Currently amended) An access method of for the variable power adjustment in the code division multiple access mobile communication system as Claim 1, wherein, after the indications of a the transmission power bias indication of indicated by the conflict detection/channel assignment indication channel is are-received by the said physical common packet channel, when the power bias indication falls within if it is in a To set, exiting then the access procedure will be exited;

when the power bias indication falling within if those in a T<sub>1</sub> set or a T<sub>-1</sub> set is are received, then an acquisition is will be indicated, and transmission the power biases of the subsequent-power control prefix prefixes and the message section messages are will be determined by the specific values of T<sub>1</sub> or T<sub>-1</sub>;

when any of power bias indications of the received indication is (1, 1) or (-1, -1) is received, then transmitting the power control prefix prefixes and the message section messages will be transmitted by using a the power bias  $\Delta$  Pp-m;

when any of power bias indications of if the received indication is (1, 0) or (-1, 0) is received, then transmitting the power control prefix prefixes and the message section messages will be transmitted by using a the power bias  $(\Delta Pp-m+\Delta P1)$ ; and

when any of power bias indications of if the received indication is (0, 1) or (0, -1) is received, then transmitting the power control prefix prefixes and the message section messages will be transmitted by using a the power bias  $(\Delta Pp-m+2* \Delta P1)$ .

7. (New) An access method for variable power adjustment in a code division multiple access mobile communication system, the method being based on a base station and a user equipment, comprising:

obtaining acquisition information by the base station through receiving via an up link a prefix of a physical random access channel, and an access prefix and a conflict detection prefix of a physical common packet channel and evaluating quality, respectively;

performing precise control of transmission power of a message section of the physical random access channel, and the conflict detection prefix, a power control prefix, and a message section of the physical common packet channel being obtained based on

Serial No.: 10/734,326

Examiner: Steven Lim

Reply to Office Action mailed August 22, 2007

Page 8 of 13

quality evaluation values obtained from evaluating the quality;

transmitting a control indication of the precise control via an acquisition indication channel, an access prefix acquisition indication channel, and a conflict detection/channel assignment indication channel of a down link; and

after the control indication being received by the user equipment, transmitting the message section of the physical random access channel, and the conflict detection prefix, the power control prefix, and the message section of the physical common packet channel by using a value among a plurality of power bias values,

wherein, a format of the acquisition indication channel and the access prefix acquisition indication channel that have the control indication of the precise control is:

$$a_{2k} = \sum_{s=0}^{15} AI_{1,s}P_s(k)$$

$$a_{2k+1} = \sum_{s=0}^{15} AI_{2,s}P_s(k), k = 0,1...15;$$

wherein, Ps(k) is a prefix characteristic code, values of  $AI_1$  and  $AI_2$  can be taken as 0, 1, and -1, nine control indications can be produced by combining  $AI_1$  and  $AI_2$ .

8. (New) An access method for variable power adjustment in a code division multiple access mobile communication system, the method being based on a base station and a user equipment, comprising:

obtaining acquisition information by the base station through receiving via an up link a prefix of a physical random access channel, and an access prefix and a conflict detection prefix of a physical common packet channel and evaluating quality, respectively;

performing precise control of transmission power of a message section of the physical random access channel, and the conflict detection prefix, a power control prefix, and a message section of the physical common packet channel being obtained based on quality evaluation values obtained from evaluating the quality;

transmitting a control indication of the precise control via an acquisition indication

Serial No.: 10/734,326 Examiner: Steven Lim

Reply to Office Action mailed August 22, 2007

Page 9 of 13

channel, an access prefix acquisition indication channel, and a conflict detection/channel assignment indication channel of a down link; and

after the control indication being received by the user equipment, transmitting the message section of the physical random access channel, and the conflict detection prefix, the power control prefix, and the message section of the physical common packet channel by using a value among a plurality of power bias values,

wherein, a format of the conflict detection/channel assignment indication channel is:

$$a_{2l} = \sum_{l=0}^{15} CDI_{i,1}P_{Sl}(l) + \sum_{k=0}^{15} CAI_{k,1}P_{Sk}(l)$$

$$a_{2l+1} = \sum_{l=0}^{15} CDI_{i,2}P_{Sl}(l) + \sum_{k=0}^{15} CAI_{k,2}P_{Sk}(l), 1 = 0,1...15;$$

wherein.

each of CDI<sub>1</sub>, CAI<sub>2</sub> [[,]] can be taken as 0, 1, and -1;

definitions of T<sub>1</sub>, T<sub>0</sub>, and T<sub>-1</sub> being as follows:

$$T_1=\{(1, 1), (1, 0), (0, 1)\};$$

$$T_0=\{(0,0),(1,-1),(-1,1)\};$$

$$T_{-1}=\{(-1,-1),(-1,0),(0,-1)\}.$$